

**Abstract of the Disclosure**

An L bit for notifying another router of whether  
5 a self-router belongs to a connection-oriented network  
is newly provided in the options field of a conventional  
OSPF packet and the OSPF packet, including L bit is  
transmitted to another router. In this way, each router  
belonging a network can automatically recognize a  
10 router belonging to a connection-oriented network by  
detecting L bit. Then, by generating a routing tree,  
a connection-oriented network device can be identified  
in the routing tree and mapping between a  
connection-oriented network and a connectionless  
15 network can be performed in an edge device.